UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,971	09/30/2003	Gary K. Michelson	101.0059-02000	4939

22882 7590 11/29/2011

MARTIN & FERRARO, LLP
1557 LAKE O'PINES STREET, NE
HARTVILLE, OH 44632

EXAMINER	
WILLSE, DAVID H	
ART UNIT	**PAPER NUMBER**
3738	
MAIL DATE	**DELIVERY MODE**
11/29/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/674,971
Filing Date: September 30, 2003
Appellant: MICHELSON, GARY K.

Amedeo F. Ferraro
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 18, 2011, and October 4, 2011, appealing from the Office action mailed February 16, 2011.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

As noted by Appellant, this application is a divisional of U.S. application serial no. 09/792,679. An examiner's answer was mailed on October 20, 2011, for said parent application.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the present application:

Claims 29-59 and 62-68 are rejected and pending.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except

for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

4,714,469	KENNA	12-1987
5,192,327	BRANTIGAN	3-1993
WO98/48738 A1	CROZET	11-1998
6,855,168	CROZET	2-2005

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

Claims 29, 30, 33-36, 39, 40, 41, 44-47, 50-59, 62, 63, and 65-67 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kenna, US 4,714,469. Particular attention is directed to Figures 1 and 4; abstract; column 1, lines 46-56; column 2, lines 7-17; column 5, lines 47-56; and column 6, lines 53-57. Regarding claim 29, the lateral and medial sides as claimed may be viewed as including the upper and lower flat surface portions of the Kenna implant, with upper and lower arcuate surfaces being defined by respective protuberances **5**. Alternatively, *partial* curves are evidently encompassed by instant claims 29 (at line 24) and 62 (at line 2). Regarding claims 33, 34, 44, and 45, because of the space **9**, the implants are effectively

combined with a fusion promoting material in the form of bone (column 4, lines 28-30); the porous coating **5** also promotes bone ingrowth and fusion (column 3, line 63, to column 4, line 7; column 1, lines 5-8). Regarding claim 39, said upper and lower flat surface portions are straight along the implant length, as seen from Figures 1, 2, and 4 of Kenna.

Claims 31, 32, 42, 43, 64, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kenna, US 4,714,469, and Brantigan, 5,192,327. Kenna lacks openings communicating with a hollow space containing fusion promoting material such as bone, but these features were common in the art at the time of the present invention, as seen from Brantigan (drawings, abstract, etc.). To so modify Kenna would have been obvious in order to enhance the long-term stability (Brantigan: column 7, lines 21-23; etc.), with further motivation having been provided by the purpose of space **9** (Kenna: column 4, lines 28-30). Moreover, such a modification would have led to nothing more than predictable results because of the prevalence of osseo-integration features in the art. Conversely, providing the Brantigan embodiment of Figure 2, for example, with elongated protuberances of the sort taught by Kenna would have been obvious in order to improve initial rotational stability (Kenna: column 4, lines 22-23), with further motivation having been provided by similarities in design and purpose of these implant types.

Claims 37, 38, 48, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenna, US 4,714,469, in view of Crozet, WO 98/48738 A1 (via related US 6,855,168). A screw or screws extending into the disc space and threadingly engaging adjacent vertebrae, as taught in Crozet (Figures 1, 28, 42; column 1, lines 43-47; column 2, lines 59-61; column 8, lines 12-19; etc.), would have been an obvious supplement or substitute for the protuberances **5** of Kenna in

order to improve anchorage and to promote bone fusion via screw cutting edges (Crozet: column 4, lines 21-24; etc.), with such a variant leading to nothing more than predictable results in view of the widespread use of bone screws in the art.

(10) Response to Argument

The term "side" (e.g., instant claim 29, lines 6-7) is defined as "a place, space, or direction with respect to a center or to a line of division" (*Merriam-Webster's Collegiate Dictionary*, 10th edition: 1996) and is thus not restricted (in scope) to a single surface or even to a plurality of surfaces. Moreover, "*along* the maximum width" (instant claim 29, line 7) does not necessitate that an arcuate surface span the width in its entirety. It must also be pointed out that two or more "maximums", dissimilar in magnitude, may exist for a particular dimension, as evidenced by Appellant's own claims 58 and 59. Therefore, under either interpretation presented in the above grounds of rejection (wherein the upper and lower flat surface portions are part of the sides in the first interpretation and are part of the arcuate, or partially curved, upper and lower surfaces in the second interpretation), the Kenna implant meets the claim limitations.

Regarding the language beginning with "positioning the leading end" (present claim 29, last eight lines), attention is again directed to Kenna's Figure 4; the abstract; column 1, lines 46-56; and column 2, lines 7-17; which clearly shows that the implant D-shaped profile "conforms to the outer profile of the vertebrae" (column 1, lines 47-49). Appellant's arguments overlook these passages of Kenna, so no further comment is deemed necessary. As for dependent claims 40 and 41, the Kenna implant trailing end is *asymmetrical* relative to a sagittal plane bisecting

said end (Figures 3 and 4) and is *symmetrical* about a transverse plane bisecting said end (Figure 2).

With respect to the rejection under 35 U.S.C. 103(a) based upon the combination of Kenna and Brantigan, Appellant apparently asserts that "Kenna already teaches an implant that provides long-term stability" (Appeal Brief of August 18, 2011: sentence bridging pages 9 and 10), so there would be no reason to make further improvements, at least in the manner prescribed by the grounds of rejection. The knowledge of one of ordinary skill in the art at the time of the present invention (more than a decade after the Kenna specification was written) would certainly have included the advantages of extensive interlocking of bone ingrowth with the spinal implant, such as improved anchorage, reduction of foreign material, and enhanced stressing of bone tissue (and thus greater bone viability under Wolff's law), as demonstrated by a cursory review of the cited prior art and of subclass 623/17.11 in the U.S. patent classification system.

In regard to the rejection involving the Crozet patent documents under 35 U.S.C. 103(a), the implant is *relatively* rotated during the insertion of member **20** (e.g., column 10, lines 29-31, of Crozet, US 6,855,168 B2) into the opening formed through the spine, said member **20** being part of the implant. Appellant suggests that the Crozet teaching would "undermine" the reason for combining (Appeal Brief: page 12, lines 11-14). The Crozet body **10** is inserted first (e.g., column 10, lines 24-25; column 9, lines 44-46), so there is no conflict with or teaching away from rotational stability (Appeal Brief: page 12, second to last sentence), because a *different* tool in the form of a "screwing instrument" (column 10, line 23) is employed for member **20**. And contrary to Appellant's comments on the alleged unpredictable results (Appeal Brief: page 13), Crozet member **20** need not conform to the outer profile of a vertebra to impart sufficient

anchorage into said vertebra, as demonstrated by Crozet's embodiment of Figure 1, for example, so a corresponding screw member would not have to extend beyond any part of the outer D-shaped surface of Kenna.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/David H. Willse/
Primary Examiner, Art Unit 3738

Conferees:

/CORRINE M MCDERMOTT/

Supervisory Patent Examiner, Art Unit 3773

/THOMAS J SWEET/

Supervisory Patent Examiner, Art Unit 3738